

change in habitat varied between GCMs, all models projected habitat loss in the polar basin within the 45-year foreseeable future timeframe. Therefore, despite the regional variation in changes and response, we find that the primary threat (loss of habitat) is occurring and is projected to continue to occur throughout the Arctic. In addition, the USGS also examined how the effects of climate change will vary across time and space; their model projections also indicate that impacts will happen at different times and rates in different regions (Amstrup et al. 2007).

Recognizing the differences in the timing, rate, and magnitude of threats, we evaluated whether there were any specific areas or populations that may be disproportionately threatened such that they currently meet the definition of an endangered species versus a threatened species. We first considered whether listing one or more Distinct Population Segments (DPS) as endangered may be warranted. We then considered whether there are any significant portions of the polar bear's range (SPR) where listing the species as endangered may be warranted. In evaluating current status of all populations and projected sea ice changes and polar bear population projections, we were unable to identify any distinct population segments or significant portions of the range of the polar bear where the species is currently in danger of extinction. Rather, we have concluded that the polar bear is likely to become an endangered species throughout its range within the foreseeable future. Thus, we find that threatened status throughout the range is currently the most appropriate listing under the Act.

*Comment 53:* One commenter asserted that the best available scientific information indicates that polar bear populations in two ecoregions defined by Amstrup et al. (2007)—the Seasonal Ice ecoregion and the polar basin Divergent ecoregion—should be listed as endangered.

*Our response:* We separately evaluated whether polar bear populations in these two ecoregions qualify for a different status than polar bears in the remainder of the species' range. We determined that while these polar bears are likely to become in danger of extinction within the foreseeable future, they are not currently in danger of extinction. See our analysis in the section "Distinct Population Segment (DPS) and Significant Portion of the Range (SPR) Evaluation."

*Comment 54:* There is insufficient evidence to conclude that the polar bear will be threatened or extinct within

three generations as no quantitative analysis or models of population numbers (or prey abundance) are offered.

*Our response:* New information on population status and trends for the Southern Beaufort Sea (Hunter et al. 2007; Regehr et al. 2007b) and updated population estimates for the Northern Beaufort Sea (Stirling et al. 2007) and Southern Hudson Bay (Obbard et al. 2007) populations is included in this rule along with range-wide population projections based on polar bear ecological relationship to sea ice and to changes in sea ice over time (Amstrup et al. 2007). These studies, plus the IPCC AR4, and additional analyses of climate change published within the last year, have added substantially to the final rule. Taken together, the new information builds on previous analyses to provide sufficient evidence to demonstrate that: (1) polar bears are sea ice-dependent species; (2) reductions in sea ice are occurring now and are very likely to continue to occur within the foreseeable future; (3) the linkage between reduced sea ice and population reductions has been established; (4) impacts on polar bear populations will vary in their timing and magnitude, but all populations will be affected within the foreseeable future; and (5) the rate and magnitude of the predicted changes in sea ice will make adaptation by polar bears unrealistic. On these bases, we have determined that the polar bear is not currently in danger of extinction throughout all or a significant portion of its range, but is likely to become so within the foreseeable future.

*Comment 55:* Perceptions differ as to whether polar bear populations will decline with loss of sea ice habitat.

*Our response:* Long-term data sets necessary to establish the linkage between population declines and climate change do not exist for all polar bear populations within the circumpolar Arctic. However, the best available scientific information indicates a link between polar bear vital rates or population declines and climate change. For two populations with extensive time series of data, Western Hudson Bay and Southern Beaufort Sea, either the population numbers or survival rates are declining and can be related to reductions in sea ice. In addition, scientific literature indicates that the Davis Strait, Baffin Bay, Foxe Basin, and the Eastern and Western Hudson Bay populations are expected to decline significantly in the foreseeable future based on reductions of sea ice projected in Holland et al. (2006, pp. 1–5). Additional population analyses (Regehr et al. 2007a, b; Hunter et al. 2007;

Obbard et al. 2007) that further detail this relationship have been recently completed and are included in this final rule.

*Comment 56:* Factors supporting listing are cumulative and thus are unlikely to be quickly reversed. Polar bears are likely to become endangered within one to two decades.

*Our response:* We have concluded that habitat loss (Factor A) is the primary factor that threatens the polar bear throughout its range. We have also determined that there are no known regulatory mechanisms in place, and none that we are aware of that could be put in place, at the national or international level, that directly and effectively address the rangewide loss of sea ice habitat within the foreseeable future (Factor D). However, we have also concluded that other factors (e.g., overutilization) may interact with and exacerbate these primary threats (particularly habitat loss) within the 45-year foreseeable future.

Polar bear populations are being affected by habitat loss now, and will continue to be affected within the foreseeable future. We do not believe that the species is currently endangered, but we believe it is likely that the species will become endangered during the foreseeable future given current and projected trends; see detailed discussion under Factor A in the section "Demographic Effects of Sea Ice Changes on Polar Bear". We intend to continue to evaluate the status of polar bears and will review and amend the status determination if conditions warrant. Through 5-year reviews and international circumpolar monitoring, we will closely track the status of the polar bear over time.

*Comment 57:* Polar bears face unprecedented threats from climate change, environmental degradation, and hunting for subsistence and sport.

*Our response:* We agree in large part as noted in detail within this final rule, but clarify that hunting for subsistence or sport does not currently threaten the species in all or a significant portion of its range, and where we have concerns regarding the harvest we are hopeful that existing or newly established regulatory processes, e.g., the recently adopted Bilateral Agreement, will be adequate to ensure that harvest levels are sustainable and can be adjusted as our knowledge of population status changes over time. Please see the "Summary of Factors Affecting the Polar Bear" for additional discussion of these issues.